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Conceptual and Methodological Issues in Trauma History Assessment

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An increasing number of psychometrically sound measures of post-traumatic stress disorder (PTSD; American Psychiatric Association, 1994) is available for research and clinical assessment purposes, for example, the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1990) and the PTSD Symptom Scale (PSS; Foa et al., 1993). However, although such measures address the B (reexperiencing), C (avoidance/numbing), and D (arousal) *symptoms* of the disorder, they tend not to address assessment of the A (exposure) criterion independently, and methodology for standardized assessment of trauma history has been relatively neglected. A number of efforts to develop such instruments are underway; however, trauma history instruments that are comprehensive and that have established psychometric properties are the exception. Reliably defining traumatic event characteristics that meet Criterion A of PTSD and obtaining validation for the occurrence of these events pose a serious challenge. Problems with recall, memory, and reporting further complicate assessment of these events. This chapter addresses these issues from the perspective of two efforts to develop such instruments. Although the purposes, formats, and target populations for the two trauma history instruments differ widely, both assess a wide range of traumatic events. Preliminary studies of these two instruments have focused on the stability and validity of reports of these events. Problems with operationalizing definitions of traumatic events that meet Criterion A have been encountered in each study. Even decisions regarding how to go about establishing the psychometric properties of these instruments were

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complex and not completely straightforward. The chapter discusses these common challenges and their implications for understanding and assessing trauma history and provides suggestions for future research in this area.

Background

Since the introduction of PTSD into the psychiatric nosology in DSM-III (American Psychiatric Association, 1980), one of the criteria in the diagnosis has been exposure to a traumatic event. In DSM-III and subsequently DSM-III-R (American Psychiatric Association, 1987), this was defined as an event "outside the range of normal human experience" (p. 247). More recently, the stressor criterion (A) for PTSD in DSM-IV (American Psychiatric Association, 1994) has been revised to include two major components. The first, A1, refers to qualitative characteristics of exposure that include "actual or threatened death or injury, or a threat to the physical integrity of oneself or others" (p. 427). The second component, A2, specifies that the individual's response to such events includes "intense fear, helplessness, or horror" (p. 427). Thus Criterion A1 refers to more "objective" descriptive characteristics of a traumatic event, whereas Criterion A2 encompasses subjective responses to these events. Although these newer characterizations of events have helped to clarify which types of events should be covered, they are not precise, and investigators have had to develop their own operational definitions.

The failure to include *exposure* assessment in measures of PTSD earlier is likely due in part to the way the trauma field has developed. Research studies have tended to focus on trauma sequelae within specific populations (e.g., Vietnam veterans, sexual assault and abuse survivors, disaster survivors, etc.), and trauma researchers have tended to develop separate and detailed trauma exposure measures for these discrete target events (Goodman et al., in press). However, recent research suggests that it is common for people to experience multiple traumatic events in the course of their lives (e.g., Kessler et al., 1995; Norris, 1992), that a history of prior trauma may affect a survivor's responses to a later event (e.g., Resnick et al., 1993), and that the effects of traumatic experiences may be cumulative (Follette et al., 1996; Goodman et al., 1997). Thus it is imperative that researchers develop psychometrically sound measures of lifetime exposure to a variety of traumatic events, even for studies that focus on a specific target (traumatic) event. Psychometric evaluations of the two trauma history instruments described in this chapter have made it clear that gathering data about past traumatic exposure is not necessarily as straightforward as collecting data on other more clear-cut characteristics, such as demographic information. Rather, assessment of traumatic exposure is a complex measurement task, involving issues of definition, subtleties of methodology, as well as evaluation of consistency and validity of reporting. Therefore, appropriate psychometric validation of such measures is important and necessary.

The Instruments

The Stressful Life Events Screening Questionnaire (SLESQ; Goodman et al., in press) is a 13-item self-report screening measure designed to provide an initial assessment of lifetime exposure to a variety of traumatic events such as traumatic injury, violent bereavement, and physical and sexual assault and abuse. The instrument was developed in the context of a study that examined differential outcomes associated with

a range of traumatic events and dimensions. Respondents are asked to indicate whether or not an event occurred, and if so, additional information (depending on the question) is requested, including the following: the age at which the event occurred; a brief description of the incident, injuries; whether someone died; whether the participant's life was in danger; and the perpetrator. Questions are worded in explicit, behaviorally anchored language. Psychometric support establishing the reliability and validity for the instrument was obtained from a university sample ($N = 126$) who completed the questionnaire and two weeks later were randomly assigned to either a second self-report administration or a twenty minute face-to-face interview, covering the same content, with a trained clinical interviewer. In our SLESQ psychometric study, 72% of the participants reported exposure to at least one traumatic event. The mean number of reported traumas for this college sample was 1.83 (SD = 1.96). In a larger screening study using the SLESQ ($N = 2505$), 68% of the college women reported at least one event, and 43% reported two or more. The mean number of reported traumas was 1.69 (SD = 1.80).

The Evaluation of Lifetime Stressors (ELS; Krinsley et al., 1994) is a protocol consisting of a questionnaire and follow-up interview. It provides a comprehensive, multidimensional assessment of traumatic events across the lifetime. The format provides multiple and varied opportunities to report traumatic experiences using both broad and more detailed questions, varied response formats, and a hierarchical arrangement of questions starting with less emotionally intense questions. For all reported events, information regarding threat, injury, emotional response, frequency, and duration is collected, and additional dimensions are obtained for the worst traumas. Support for the reliability and validity of the instrument has been obtained from double administrations of the ELS with outpatient male Vietnam era veterans in an inpatient substance abuse unit. In early analyses of this sample ($N = 40$), participants' overall mean number of reported traumas was 13, notably higher than that for the nontreatment-seeking psychometric and screening samples with the SLESQ.

Defining Criterion A with the SLESQ and ELS

Given the widely differing purposes of a screening versus a comprehensive measure of trauma history, the SLESQ and ELS have used different approaches to address the difficulties in defining Criterion A events and operationally determining thresholds for "counting" exposure. The SLESQ was developed in the context of a research study that required a comprehensive self-report trauma history screening questionnaire to be administered to a large pool of respondents, a subset of whom would then be followed-up with face-to-face interviews. The purpose of the measure is to identify, as quickly and efficiently as possible, all traumatic events experienced by respondents, while avoiding subthreshold events that would not likely be conceptualized as "traumatic," vis-a-vis the qualitative descriptions in Criterion A1 of the PTSD diagnosis. It does not address Criterion A2 (subjective reaction to the event). Given our goals, we decided, for purposes of designing the questionnaire, to develop conservative definitions of events and to make them explicit. Therefore, we wrote questions requiring that events be life-threatening and/or involve a significant level of violence and/or assault to bodily integrity, and that the event occurred to the respondent or an *extremely* close friend or immediate family member. We recognize that our implicit thresholds are somewhat arbitrary. Although the events covered by the SLESQ overlap significantly with some other measures, the SLESQ places *less* emphasis than other screening measures (e.g., the Traumatic Stress Schedule; Norris, 1990 and the Traumatic Events Questionnaire,

Vrana & Lauterbach, 1994) on disasters and *more* emphasis on behaviorally specific assessment of interpersonal trauma. It does, however, elicit additional information (depending on the item) about important details (e.g., age, duration, level of force used, and injury received) for endorsed events and includes two "catchall" questions for other life-threatening and extremely frightening or horrifying experiences (with examples given that include torture, combat, and living in a war zone) that are not specifically covered, to allow some flexibility. Descriptive information is particularly important for "catchall" questions, and it also enables researchers to use the SLESQ to establish study specific criteria to fit the purpose of their research. On the other hand, we acknowledge that investigators who want to pick up a broader range of events (e.g., natural death of a partner) might find the SLESQ too restricting (Goodman et al., in press).

To determine how successful we were in our own purpose, i.e., to develop a measure targeted to pick up primarily Criterion A events, three judges evaluated each item of a systematically selected subsample of screening questionnaires (every third screening measure with a random start; $N = 46$) against the conservative definition of Criterion A trauma developed for each category. Decisions about trauma thresholds were made by consensus. Respondents endorsed a total of 81 events in the 46 questionnaires. Judges rated 85% of these events as meeting our severity threshold for a Criterion A event. The most commonly reported subthreshold items included peer fights, spanking by parents, and non-life-threatening illnesses such as mononucleosis. Thus, by and large, the SLESQ appears to be relatively specific for Criterion A type events, based on our own operationalization. Note that although the analyses just reported helped us to examine the specificity of the SLESQ, all further analyses were based upon all (unscreened) responses.

Because the SLESQ was designed to be a relatively brief screening measure, it does not assess trauma exposure in as much detail as the ELS. Collecting information about objective and subjective dimensions of trauma events is considered a crucial feature of the ELS, based on the growing recognition that assessment of trauma should be more comprehensive and multidimensional (e.g., Sutker et al., 1991; Widom & Shepard, 1996). The ELS aims to provide a structured method for collecting empirical data on lifetime exposure to potentially traumatic events by using a clinically viable format. Because the ELS collects multidimensional information about every trauma, it is possible to examine the impact of various characteristics of the events. For example, at least for this small sample of men, consistency of reporting over time is better for events that meet full criteria A1 and A2 of PTSD (those that are accompanied by fear, helplessness, or horror) than for events that are only potentially traumatic but do not meet the emotional criterion. These results are in concordance with a growing body of literature that suggests that there is more consistent recall for more personally significant events, lending some support to the importance of an emotional reaction to traumatic events, as used in the DSM-IV. This trend holds with the analysis of the complete data set of 76 participants.

Reliability of Reporting for Traumatic Events

How reliable is recall of traumatic events on these two instruments? The SLESQ appears to have very good test-retest reliability. Over a two-week interval, the correlation between the number of events reported at time 1 and the number reported at time 2 was .89. This figure is similar to the .88 and .91 test-retest correlations reported for the

Traumatic Stress Schedule (TSS; Norris & Perilla, 1996) and the Traumatic Events Questionnaire (TEQ; Lauterbach & Vrana, 1996), respectively. However, except for unpublished data on the Trauma History Questionnaire (THQ; Green, 1996) and the ELS (see below), the SLESQ is the first measure to be evaluated for reliability across individual events. Reported kappas for the occurrence of specifically named SLESQ events ranged from .31 for attempted sexual assault to 1.00 for robbery or mugging (median kappa = .73); deleting attempted sexual assault, the range was .57–1.00. This median kappa for reporting on specific events across administrations of the SLESQ was similar to the .64 figure reported for the THQ and the .74 figure reported for the ELS with regard to the early data analysis in adult male veterans. Not surprisingly, the two "catchall" SLESQ items had among the lowest kappas (.25 and .40). With regard to attempted sexual assault, we hypothesized that the low reliability stemmed from the fact that respondents were required to make a judgment about their perpetrator's frame of mind, that is, attempted assault, by definition, is not completed, and therefore respondents must decide whether the perpetrator actually intended to rape them. Overall, there were no significant differences in the proportion of respondents who reported an event the *first time only* versus the *second time only*. Thus, 33% of participants reported an event during the first SLESQ administration that was omitted on the second administration, and 30% of participants reported a new event during the retest.

Psychometric analysis of the ELS has focused on the double administrations of the ELS interview (ELS-I). The ELS questionnaire (ELS-Q) data are not reported here because the questionnaire functions as a prompt for the interview and is not conceptually designed to be a stand-alone instrument. Using the ELS-I, analyses examined the reliability of events reported at Interview 1 and 2 for eight types of trauma. Early global analyses of the first 40 participants suggest that kappa is highly variable but is higher for more salient events and for more clearly defined categories. Kappas ranged from .32 and .41 for serious illness or injury in adulthood and childhood, respectively, to .90 for childhood accidents and 1.0 for both childhood physical abuse and adult war-zone exposure. Due to its comprehensiveness, the ELS can examine the reliability of reporting events in finer detail, for example, according to their A1 or A1 *and* A2 PTSD determination. Kappas ranged from .14 to .78 for potentially traumatic events and from .31 to .84 for traumatic events that meet both criteria A1 and A2 of PTSD. Thus, not only does the ELS demonstrate adequate test-retest reliability, but as noted earlier, it allows examining the subjective component of the stressor Criterion A.

Although both instruments demonstrated good overall test-retest reliability and excellent reliability for some items, it is just as important to note that kappas for some individual items were far from perfect. Some of the inconsistent reporting may have been due to differential interpretation of questions at the separate administrations, but respondents nevertheless failed to report events as serious as rape until the second administration of the SLESQ, for example. Thus, inconsistent reporting may represent a more general phenomenon and not simply characteristics of a specific instrument.

It is unlikely that factors such as amnesia or dissociation played a significant role in unreliable reporting, given the short time frames (two weeks for the SLESQ and two to ten days for the ELS) between the first and second administrations of the instruments. Nevertheless, these phenomena may well play a role in inconsistent reporting generally because a growing number of studies have demonstrated that individuals can lose and then recover memories of past trauma (Briere & Conte, 1993; Williams, 1995), and amnesia for aspects of an event is a PTSD symptom criterion. Another explanation for potential inconsistencies is that a respondent's state of mind may change across

administrations, leading to changes in the ability or motivation to retrieve remote memories at any given time or to shifts in appraising a specific event (e.g., whether a rape had been attempted, whether a situation was life-threatening) which could then influence reporting. It is likely that these explanations apply generally to trauma history measures and not just to our instruments.

Validity Assessment for the SLESQ and ELS

Establishing the psychometric soundness of trauma history measures such as the SLESQ and ELS requires ingenuity and creative methodology to address the many inherent challenges of trauma history validation. For example, with the current SLESQ study, seeking external corroboration of events was not feasible, although this would add to the instrument's overall validity if we are able to address this issue in future studies. As another example, because of the ELS' comprehensiveness, which goes far beyond prior measures, it is not appropriate to compare ELS prevalence rates for Vietnam-era veterans with regional or national probability samples using less comprehensive measures. Once again, the differing formats and purposes of the SLESQ and the ELS led to different strategies for evaluating the two measures.

Concurrent Validity. To establish concurrent validity for the SLESQ, we compared prevalence rates from our own study to those obtained in studies using other instruments. Again, for all analyses, we used *all* responses, whether or not they met the conservative cutoff established for determining specificity. Wording of items, behavioral specificity of questions, definitions, and thresholds for trauma differ across trauma history measures and make comparisons across studies imprecise. However, where possible, prevalence rates for the traumatic events listed in the SLESQ were compared to rates found in prevalence studies using two large probability samples (Kessler et al., 1995 [national]; Norris, 1992 [regional]). Except for robbery, traumatic bereavement, and witnessing death, the prevalence rates for specific events in our college sample were consistent with (e.g., life-threatening accident) or higher than (e.g., child and adult sexual assault and abuse, as well as physical abuse) those reported by either Kessler et al. or Norris (see Goodman et al., in press). With regard to the higher rates for assault/abuse, our sexual assault questions, for example, included probes about a range of potential perpetrators, specific sexual acts, and situations such as being asleep or drugged. Because avoiding loaded terms such as "rape," including behaviorally specific items, and comprehensive questioning have been shown to have a profound influence on reporting rates, it is not surprising that our prevalence rates were higher than those elicited with Kessler's more loaded question or Norris's more general question. Our sexual assault prevalence rates are consistent with those reported in a national probability sample of college students (Koss et al., 1987) that used a detailed measure of sexual assault which includes behavioral definitions and avoids labels. The lower rates for robbery and traumatic loss may be due to wording, but our questions for those items were heavily based on the TSS (Norris, 1992). Thus, a more parsimonious hypothesis is that the samples in these two studies simply had different opportunities to experience those events based on their age differences.

Construct Validity. Further evidence for the validity of the SLESQ was obtained in a larger study of college women ($N = 2483$) who had also taken the Trauma Symptom Inventory (TSI; Briere, 1995). The total number of events reported on the SLESQ was

correlated with the TSI clinical scales. All correlations were significant at $p < .001$, and ranged from .23 for the impaired self reference scale to .41 for the intrusive experiences scale.

Pilot data using an early version of the ELS with male veterans on an inpatient substance abuse unit indicated that over 50% of the men reported histories of severe physical or sexual child abuse (Krinsley et al., 1992). Evidence for the construct validity of the ELS was demonstrated by differences between veterans who did and did not report abuse histories. The veterans who reported childhood trauma reported significantly more severe levels of psychopathology on self-report measures, including significantly elevated scores on the MMPI-2, the Symptom Checklist 90-Revised, and the Mississippi Scale for Civilian PTSD. Childhood traumas were also associated with higher levels of PTSD and a higher incidence of Axis II diagnoses. In the psychometric study of the ELS, trauma severity for the first 40 participants was significantly associated with symptom severity on measures of PTSD such as the CAPS (Blake et al., 1990), thus supporting the validity of the ELS as a trauma-assessing instrument.

Convergent Validity. Overall, the SLESQ demonstrated good convergent validity with a correlation of .77 between the number of events reported on the screening measure and the number of events reported in an interview two weeks later. Kappas for the occurrence of specific traumatic events ranged from .26 (witnessed death/assault) to .90 (life threatening illness), with a median kappa of .64. Kappas for the two "catch-all" items were .08 for other horrifying event and .88 for other life threat. Six items fell below a kappa of .60, and for all of these lower kappa items, the differences in reporting across screen-interview administrations was in the direction of increased reporting in the interview. Indeed, in contrast to the screen–screen condition, many more participants reported an *additional* event in the interview (54%) compared to those who *omitted* an event at the follow-up interview (30%). Similarly, significantly more events were reported for respondents interviewed at the second administration (mean = 2.94 for time 2 interview) compared to the number of events reported at the time 1 screening (mean = 1.89) (Goodman et al., in press).

To explore whether the increased reporting at the time 2 interview (and subsequently lower kappas on particular items) resulted from the interview's relatively greater sensitivity to detect exposure to Criterion A events or from its elicitation of more subthreshold events, we used the event evaluation procedure described earlier with respect to specificity to determine whether the additional events reported in the course of the interview met the Criterion A standard. In addition, to determine whether differential reporting resulted from timing (second administration) versus method (interview), we also evaluated all additional events reported at the time 2 screening but not reported at the time 1 screening. Using this method, we rated 46 (63%) of the additional events reported in the interview condition as subthreshold, compared to only 10 additional events (29%) reported in the time 2 screening condition. Therefore, most of the additional events reported in the interviews were actually events that we did not define as potential Criterion A events and thus did not intend to pick up on the screening questionnaire (e.g., sibling fights and spanking by parents) (Goodman et al., in press).

Collateral Confirmation of Worst Traumas. In a separate part of the ELS psychometric study, there is an ongoing attempt to document convergent validity by obtaining corroborating reports on participants' two worst traumas, one from childhood and one

from adulthood. This task is clearly very difficult, but the attempt was considered important. The goal was to investigate what, if any, additional validation could be found for a wide variety of retrospectively reported traumatic events. For the first 40 participants, 72% of the events were confirmed when a source was available and could be located. However, this involved only 65% of the total cases; when the total number of "worst events" ($N = 77$) was considered, the percent of satisfactorily confirmed cases dropped to 47%. Because relatively few resources were devoted to this aspect of the study, it is not clear whether these results would have improved with greater effort. On the other hand, the fact that even 47% of past traumatic events have some outside confirmation supports the validity of the ELS.

Limitations. We have presented two measures that are presently being used to assess lifetime exposure to traumatic events. However, although the initial work on these instruments is promising, these studies, so far, have been conducted on restricted populations. The ELS has been limited to male veterans, and the SLESQ has been tested only on college students. Therefore, both instruments need additional work of the same type using more general samples. Presently, we are gathering data on the SLESQ in samples of low-income women in the community who are attending family planning clinics. This sample will help us establish the psychometric properties of the SLESQ in a more representative sample. We will also be testing differences associated with its administration as a self-report.

Research Recommendations and Clinical Implications

It seems clear that psychometric evaluation of trauma exposure measures, although difficult, needs to be conducted to advance our understanding of which types and aspects of exposure place individuals at risk for negative outcomes. Although the SLESQ and ELS generally demonstrate good reliability and validity, even with consistent questions and short time periods between measure administrations, reporting of individual potentially traumatic events is not completely reliable. Thus, the reliability problems found with both measures need to be further explored. Changes may be associated with particular events or other characteristics of exposure. For example, are events that occurred in childhood reported more unreliably than those experienced in adolescence or adulthood? Are events involving shame or guilt more unreliably reported, etc.? How do respondents react when we remind them of an omitted event they reported previously? We may be observing more specific and meaningful lapses in reporting than are assessed by simply indicating that an event has been reported on one, versus two, occasions. The kappas, of course, vary by event and give us some of this information. However, more details could be obtained to help address why changes occur.

Another implication of these findings, we believe, is that omnibus traumatic event questions, like those on the Structured Clinical Interview for the DSM-III-R (SCID; Spitzer et al., 1987) are unlikely to provide comprehensive exposure data. If our questioning about specific events did not lead to completely reliable reporting, the likelihood is quite low that one open-ended question about traumatic exposure would produce reliable results. It is already known that these types of questions underestimate exposure. For example, Weaver (1998) asked the open-ended exposure question from

the SCID, followed later in the interview by specific, behaviorally worded items assessing separate event types. In her sample of battered women, she found huge increases in reporting with the specific assessments. For example, reports of childhood sexual abuse went up from 7% on the SCID question to 53% with the behaviorally specific item. Childhood physical abuse went from 9% to 74%, and adult rape from 7% to 21% with more specific questions. These findings reinforce the importance of using comprehensive measures, and the work cited herein underscores the need for psychometric work with these more comprehensive measures.

This work has major implications for clinical practice as well. For example, because of inconsistency in reporting, clients may need to be evaluated on more than one occasion to obtain a relatively complete picture of their trauma histories. As noted earlier, because of the frequency and cumulative effects of multiple traumas, even if a client is seeking treatment for a specific trauma or disorder, it is important to obtain a comprehensive assessment of trauma exposure to understand the possible range of influences on current symptoms, feelings, and behaviors.

Despite the DSM-IV general guidelines and even with reliable reporting, investigators may disagree about definitions of exposure to a "traumatic event." Thus, researchers must continue to establish their own threshold criteria, and consensus is likely to be lower at the event-specific level. The extent to which respondents' own appraisals are incorporated into definitions (e.g., whether an encounter was "life-threatening") also varies across studies. Although the respondents' assessments will almost certainly be good predictors of their psychological reactions, they also merge subjective and objective aspects of stressor definitions.

In conclusion, it is clear that whether and how a person experiences a trauma is a complex question, requiring an equally sophisticated response beyond a simple "yes" or "no" answer. We recommend using measures that have been psychometrically evaluated to assess trauma history. Finally, more psychometric evaluations are necessary for existing and future measures.

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